

A P R I L 2 0 1 4



@ the Bradbury

Special Events & News

New Exhibit to Debut in September

Did you know that the Lab's property is home to over 2,000 archaeological sites? You just might—whenever the Bradbury has a lecture about our local archaeology we draw huge crowds. Soon, you won't have to wait for a talk to explore this very popular topic. The museum is creating a new exhibit to help visitors learn about the Lab's efforts to study and mitigate impacts to archaeological sites on its part of the Pajarito Plateau. This is one focus of the Environmental Protection Division's Resources Management Services team, led by Dr. Jen Payne. She proposed updating the Bradbury's exhibit on environmental topics, now over ten years old, right before she gave one of those super-popular lectures last summer. The exhibit team, including Jen, is working out the best ways to include this topic, plus ways that the Lab manages and protects wildlife and habitat on Lab property, and



also leverages the national environmental preserve-status of the Lab's 36-square mile footprint to study local climate changes. Expect brand-new 3-D virtual reconstructions of archaeological sites, apps to help you identify owl and bat calls (there are 38 species of bats that live here), and a decision-making tool like the one Lab managers use to site a new Lab structure—it helps them avoid sensitive resources like wetlands, wildlife migration routes, and those 2,000 archaeological sites.

Save the Date!

APR
7-13

NanoDays Festival

Activities, Demonstrations,
Lecture, Movies, and Art

APR
9

Special Nano Lecture

Noon to 1:00 PM

Nathan Mara

"Building the Iron Man Suit"

APR
22

Earth Day Lecture

5:30 PM to 7:00 PM

Jack Loeffler

"Edward Abbey and His
Deep Love of the Earth"

APR
23

Brown Bag Lecture

Noon to 1:00 PM

Terry Foxx

"What I Learned from
the Trees and Flowers"

Science Cinema

Every Saturday @ 10:30 AM

Featuring a different science
film each week.



BRADBURY **SCIENCE** museum

1350 Central Avenue
Los Alamos, NM 87544

(505) 667-4444
www.lanl.gov/museum

Monthly Lectures



HEARING LOOP EQUIPPED

April 9, 2014 – Noon to 1:00 PM

“Building the Iron Man Suit: Developing the Science Behind Lightweight, Damage-tolerant Materials”

Nathan Mara, Nanotechnologist



Lightweight, damage tolerant materials can make cars and airplanes lighter and more fuel efficient, and increase lifetimes of structural materials in nuclear applications. By organizing two metals into a layered structure where the individual layers are only a few atoms thick (nanolayered composites), metals that are usually weak, easily damaged by radiation, and sensitive to high temperatures become strong, radiation-tolerant, and

thermally stable. In this presentation, Nathan Mara of Los Alamos National Laboratory's Center for Integrated Nanotechnologies explains the science behind this unusual class of materials.

April 23, 2014 – Noon to 1:00 PM

“What I Learned from the Trees and Flowers”

Terry Foxx, Storyteller and Ecologist

Aldo Leopold, after he observed the life flicker out of the eyes of a wolf, pondered that perhaps only the mountain could live long enough to know the real impact of our actions. In honor of Earth Week, ecologist Terry Foxx will intertwine the evolution of her perspective about the natural world from a small girl walking in fields of camas lilies in Idaho to working in a National Laboratory struggling with newly instituted environmental laws of the 1970s. Compliance with those laws required an evolution of perspective for project managers and continuing and constant struggle to understand what it meant for the institution.



April 22, 2014 – 5:30 PM to 7:00 PM

Special Earth Day Lecture:

“Edward Abbey and His Deep Love of the Earth”

Jack Loeffler, Writer, Historian, and Best Friend of Edward Abbey

In celebration of the 44th annual Earth Day and 25 years since environmentalist Edward Abbey's death, the museum has teamed up with Pajarito Environmental Education Center and the New Mexico Humanities Council to bring Jack Loeffler, one of Abbey's closest friends, for a special lecture. His talk will address Abbey's life with a reading from his biographical memoir of his late best friend. Together, Abbey and Loeffler ranged the American Southwest engaged in a conversation that lasted for decades. Loeffler will recall some adventures and speak of Abbey's complex points of view on environmental issues and public land policies.

Celebrate NanoDays™ With Us!

The Biggest Event for the Smallest Science!

April 7-13, 2014



The tiny world of nanoscale science is a big subject at the museum as we celebrate NanoDays 2014 on April 7-13. At NanoDays, a range of exciting programs will demonstrate the special and unexpected properties found at the nanoscale, examine tools used by nanoscientists, showcase nano materials with spectacular promise, and invite discussions of technology. By combining hands-on activities with presentations on current research, this nationwide event features new and unique learning experiences for both children and adults.

At the nanoscale—the scale of atoms and molecules—many common materials exhibit unusual properties. Our ability to manipulate matter at this microscopic size enables innovations that were never before possible. Using these advancements, nanotechnology is revolutionizing how we research and develop medicine, computing, new materials, food,

energy, and so many other things we rely on.

Visitors can experience these technologies firsthand by discovering how an inkjet printer works using capillary action, investigating new nano products and materials like Ferrofluid—a magnet that is also a fluid—and imagining what society might be like if we all wore invisibility cloaks! Other activities include using electricity to shape memory metal, and exploring thin films—the reason bubbles have so many colors.

Join us during NanoDays, April 7-13, to explore the miniscule world of atoms, molecules, and nanoscale forces.

WHAT TO EXPECT:

- ✱ Hands-on activities all week
- ✱ Demos at 11AM & 2PM on Tues – Thurs
- ✱ Fun Films about Nano at 1 PM daily
- ✱ Special lecture at Noon on Wednesday
- ✱ Art of nanoscience on display all week



What's Nano About a Butterfly?

Blue Morpho butterfly wings look blue, but they're actually made of colorless nanostructures that reflect blue light into your eyes. New paints, fabrics, and low-energy electronic displays use the spacing of tiny nanostructures to create color.

To learn more about Nano, visit:

whatisnano.org

DIY nano

Can't make it to the museum for NanoDays? How about trying some nanoscience at home on your own time? Here are some activities from [NISENet.org](http://nisenet.org) that are sure to get your neurons firing.



See DNA

How is DNA used to make tiny things? In this activity, kids extract DNA from Wheat Germ. Suitable for kids ages 5 and up.

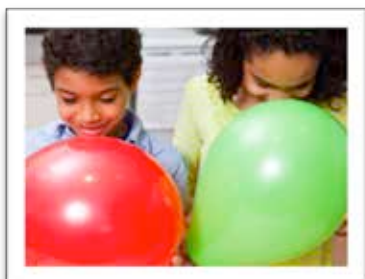
http://nisenet.org/sites/default/files/catalog/uploads/9881/diy_nano_see_dna_06_28.pdf



Draw a Circuit

Can a pencil conduct electricity? In this activity, kids complete an electrical circuit with graphite (pencil "lead"). Suitable for kids ages 5 and up.

http://nisenet.org/sites/default/files/catalog/uploads/9881/diy_nano_draw_circuit_06_28.pdf



Smelly Balloons

How can we detect things too small to see? In this activity, kids sniff out scents hidden in balloons! Suitable for kids ages 3 and up.

http://nisenet.org/sites/default/files/catalog/uploads/9881/diy_nano_balloons_07_28.pdf



Ready, Set, Fizz!

Which fizzes faster – big pieces or little pieces? In this activity, kids explore the chemical reaction between water and effervescent antacid tablets. Suitable for kids of all ages.

http://www.nisenet.org/sites/default/files/catalog/uploads/9881/diy_nano_print_fizz_03_21.pdf



Want more? Download the DIY Nano App from the iTunes store. It's free!

<https://itunes.apple.com/us/app/diy-nano/id520611568>

Mark Your Calendars!

April 2014

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1 April Fool's Day	2	3	4	5 Science Cinema Saturday 10:30 AM
6	7 Nano Days	8 Nano Days	9 Nano Days ----- Lunchtime Lecture: Nathan Mara "Building the Iron Man Suit" Noon to 1PM	10 Nano Days	11 Nano Days ----- B	12 Nano Days ----- Science Cinema Saturday 10:30 AM
13 Nano Days ----- Palm Sunday	14	15 1 st Day of Passover ----- Tax Day	16	17	18 Good Friday ----- A	19 Science Cinema Saturday 10:30 AM
20 Easter Sunday	21	22 Special Earth Day Lecture Jack Loeffler on Edward Abbey 5:30 PM ----- Last Day of Passover	23 Brown Bag Lecture: Terry Foxx "What I Learned from the Trees and Flowers" Noon to 1 PM	24	25 Arbor Day ----- B	26 Science Cinema Saturday 10:30 AM
27	28 Yom HaShoah	29	30			

*Los Alamos Spring Break (Apr. 7-11)

About the Museum

Bradbury Science Museum is located at 1350 Central Avenue in downtown Los Alamos, New Mexico. Approximately 40 interactive exhibits trace the history of the WWII Manhattan Project, highlight Los Alamos National Laboratory's current and historic research projects related to defense and technology, and focus on Laboratory research related to energy, environment, infrastructure, health and global security concerns.



Hours: Tuesday – Saturday: 10:00 AM to 5:00 PM, Sunday & Monday: 1:00 PM to 5:00 PM